*Stage:*            **10.5**
                    **System Test Stage**

*Responsibility:*   Independent Tester(s) or Project Team

*Description:*      System testing is performed on the modified system.  Regression testing is a part
                    of system testing and is performed to validate that the modified code does not
                    introduce faults that did not exist prior to the maintenance activity.  *Exhibit 10.5-1*
                    (provided at the end of the section) summarizes the input, process, control, and
                    output for the System Test Stage.

*Input:*            Input to the System Test Stage of software maintenance includes the following:

                    •       Test Readiness Review report

                    •       Documentation, which includes:
                            -       System test plans(s)
                            -       System test cases
                            -       System test procedures
                            -       User manuals
                            -       Design

                    •       Updated system

                    •       Updated Project Plan

*Process:*          System tests are conducted on a fully integrated system.  Testing shall include the
                    performance of:

                    •       System functional test
                    •       Interface testing
                    •       Regression testing
                    •       Test readiness review to assess preparedness for acceptance testing

                    Results of tests conducted prior to the test readiness review should not be used as
                    part of the system test report to substantiate requirements at the system level.  This
                    is necessary to assure that the test organization does not consider that testing all
                    parts (one at a time) of the system constitutes a "system test."

*Control:*          System tests should be conducted by an independent party for maximum results.
                    Prior to the completion of system testing, the test function is responsible for
                    reporting the status of the activities that had been established in the test plan for
                    satisfactory completion of system testing.  The status is reported to the appropriate
                    reviewers prior to proceeding to acceptance testing.

*Control,*
*continued:*          Software code listings, Modification Requests, and test documentation are placed
                     under configuration management.  The system owner shall participate in the review
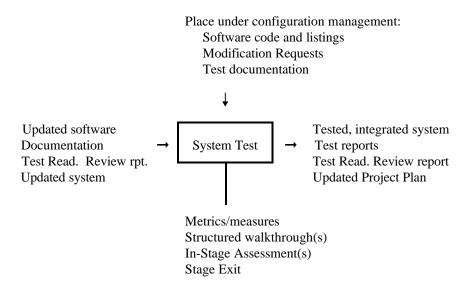                     to ascertain that the maintenance release is ready to begin acceptance testing.

*Work Products:*     The output for the System Test Stage of software maintenance includes the
                     following:

- Tested and fully integrated system
- Test report
- Test Readiness Review report
- Updated Project Plan

*Review Process:*    Conduct structured walkthrough(s), In-Stage Assessment(s), and a Stage Exit.

**Exhibit 10.5-1.  System Test Stage**

```
                          Place under configuration management:
                              Software code and listings
                              Modification Requests
                              Test documentation

                                        ↓

  Updated software                  ┌──────────────┐        Tested, integrated system
  Documentation          →          │  System Test │   →     Test reports
  Test Read.  Review rpt.           └──────┬───────┘        Test Read. Review report
  Updated system                           │               Updated Project Plan
                                           │
                                  Metrics/measures
                                  Structured walkthrough(s)
                                  In-Stage Assessment(s)
                                  Stage Exit
```